

# INTERNATIONAL SEARCH REPORT

International Application No  
PCT/EP2004/012368

**A. CLASSIFICATION OF SUBJECT MATTER**  
IPC 7 G01N33/574 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
IPC 7 G01N C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, EMBASE

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 2003/011943 A1 (GILL HARDAYAL SINGH ET AL) 16 January 2003 (2003-01-16) the whole document in particular Example 4. -----	1-27
Y	WO 03/083140 A (WONG LIMSOON ; YEOH ENG-JUH (SG); DOWNING JAMES R (US); WILKINS DAW) 9 October 2003 (2003-10-09) the whole document in particular pages 5-14. -----	1-27
Y	WO 03/039443 A (DEUTSCHES KREBSFORSCH ; HAFLERLACH TORSTEN (DE); EILS ROLAND (DE); K) 15 May 2003 (2003-05-15) the whole document ----- -/-	1-27

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

\* Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

\*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

\*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

\*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

\*&\* document member of the same patent family

Date of the actual completion of the international search

2 March 2005

Date of mailing of the international search report

28.06.2005

Name and mailing address of the ISA

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	KOHLMANN A ET AL: "MOLECULAR CHARACTERIZATION OF ACUTE LEUKEMIAS BY USE OF MICROARRAY TECHNOLOGY" GENES, CHROMOSOMES & CANCER, XX, XX, vol. 37, no. 4, August 2003 (2003-08), pages 396-405, XP008025253 the whole document -----	1-27
Y	EP 1 043 676 A (WHITEHEAD BIOMEDICAL INST) 11 October 2000 (2000-10-11) the whole document -----	1-27
Y	GOLUB T R ET AL: "Molecular classification of cancer: Class discovery and class prediction by gene expression monitoring" SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 286, no. 5439, 15 October 1999 (1999-10-15), pages 531-537, XP002207658 ISSN: 0036-8075 cited in the application the whole document -----	1-27
Y	DUGAS M ET AL: "A comprehensive Leukemia database: integration of cytogenetics, molecular genetics and microarray data with clinical information, cytomorphology and immunophenotyping" LEUKEMIA, MACMILLAN PRESS LTD, US, vol. 15, no. 12, December 2001 (2001-12), pages 1805-1810, XP002263731 ISSN: 0887-6924 the whole document -----	1-27
Y	DUGAS MARTIN ET AL: "Impact of integrating clinical and genetic information." IN SILICO BIOLOGY, vol. 2, no. 3, 2002, pages 383-391, XP001179418 ISSN: 1386-6338 (ISSN print) the whole document ----- -/-	1-27

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>ALIZADEH A ET AL: "THE LYMPHOCHIP: A SPECIALIZED CDNA MICROARRAY FOR THE GENOMIC-SCALE ANALYSIS OF GENE EXPRESSION IN NORMAL AND MALIGNANT LYMPHOCYTES"          COLD SPRING HARBOR SYMPOSIA ON QUANTITATIVE BIOLOGY, BIOLOGICAL LABORATORY, COLD SPRING HARBOR, NY, US, vol. 64, no. 1, 1999, pages 71-78,          XP001099007          ISSN: 0091-7451          the whole document</p> <p>-----</p> <p>DATABASE BIOSIS 'Online!          BIOSCIENCES INFORMATION SERVICE,          PHILADELPHIA, PA, US;          16 November 2001 (2001-11-16),          BYRD JOHN C ET AL: "Pre-treatment cytogenetics predict initial induction success and overall survival in adult patients with de novo acute myeloid leukemia: Results from CALGB 8461"          XP002274075          Database accession no. PREV200200241180          abstract          &amp; BLOOD,          vol. 98, no. 11 Part 1,          16 November 2001 (2001-11-16), page 457a,          43rd Annual Meeting of the American Society of Hematology, Part 1;Orlando, Florida, USA; December 07-11, 2001          ISSN: 0006-4971</p> <p>-----</p> <p>DATABASE BIOSIS 'Online!          BIOSCIENCES INFORMATION SERVICE,          PHILADELPHIA, PA, US;          16 November 2002 (2002-11-16),          KLAUS MIRJAM ET AL: "Incidence and Prognostic Impact of Sole Trisomies in Acute Myeloid Leukemia (AML)." XP002274076          Database accession no. PREV200300335862          abstract          &amp; BLOOD,          vol. 100, no. 11,          16 November 2002 (2002-11-16), page Abstract No. 1262,          44th Annual Meeting of the American Society of Hematology;Philadelphia, PA, USA; December 06-10, 2002          ISSN: 0006-4971</p> <p>-----</p>	1-27
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	DATA BASE BIOSIS 'Online! BIO SCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 1 December 1997 (1997-12-01), SCHOCH CLAUDIA ET AL: "The significance of trisomy 8 in de novo acute myeloid leukaemia: The accompanying chromosome aberrations determine the prognosis" XP002274077 Database accession no. PREV199800047457 abstract & BRITISH JOURNAL OF HAEMATOLOGY, vol. 99, no. 3, 1 December 1997 (1997-12-01), pages 605-611, ISSN: 0007-1048 -----	1-27

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### Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1.  Claims Nos.: because they relate to subject matter not required to be searched by this Authority, namely:

#### Article 52 (2)(d) EPC – Presentation of information

The claims were only searched with regards to the underlying method of generating a reference data base for distinguishing prognostically definable

2.  Claims Nos.: because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:

3.  Claims Nos.: because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

### Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1.  As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2.  As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3.  As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4.  No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

1-27 (partially)

Remark on Protest

- The additional search fees were accompanied by the applicant's protest.  
 No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Article 52 (2)(d) EPC - Presentation of information

The claims were only searched with regards to the underlying method of generating a reference data base for distinguishing prognostically definable AML subtypes with aberrant and prognostically intermediate karyotypes into different prognosis subsets.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-27 (partially)

A method for distinguishing AML subtypes with aberrant and prognostically intermediate karyotypes selected from trisomy 8, inv(3), t(3;3), trisomy 11, trisomy 13, trisomy 4, t(1;3), t(6;9), der(5)t(5; 11), i(17), del(9q), del(12p), and/or del(20q) into subsets with different prognosis, wherein higher expression of a marker molecule designated 243479\_at is indicative for a specific median event-free survival (EFS). Use of said marker for the manufacture of a diagnostic. A diagnostic kit containing said marker and an apparatus comprising a reference data bank, wherein the reference data bank is obtainable by determining the expression level of 243479\_at.

2. claims: 1-27 (all partially)

Inventions 2-100

Methods for distinguishing AML subtypes with aberrant and prognostically intermediate karyotypes selected from trisomy 8, inv(3), t(3;3), trisomy 11, trisomy 13, trisomy 4, t(1;3), t(6;9), der(5)t(5; 11), i(17), del(9q), del(12p), and/or del(20q) into subsets with different prognosis, wherein expression of marker molecules as defined in claim 1 is indicative for a specific median event-free survival (EFS) or for a specific median overall survival (OS). Use of said markers for the manufacture of diagnostics. Diagnostic kits containing said markers and apparatus comprising a reference data bank, wherein the reference data bank is obtainable by determining the expression levels of said markers.

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Patent document cited in search report		Publication date	Patent family member(s)		Publication date
US 2003011943	A1	16-01-2003	NONE		
WO 03083140	A	09-10-2003	AU 2003231969 A1		13-10-2003
			WO 03083140 A2		09-10-2003
			US 2004018513 A1		29-01-2004
WO 03039443	A	15-05-2003	EP 1308522 A1		07-05-2003
			WO 03039443 A2		15-05-2003
			EP 1470247 A2		27-10-2004
EP 1043676	A	11-10-2000	CA 2304876 A1		09-10-2000
			EP 1043676 A2		11-10-2000
			JP 2001017171 A		23-01-2001
			US 2003017481 A1		23-01-2003
			US 6647341 B1		11-11-2003
			US 2003073083 A1		17-04-2003